9.0 NO EXPOSURE

The storm water Phase II rule includes a no exposure exclusion for Phase I regulated industrial facilities that have the potential to reduce the total compliance costs. "No exposure" means all industrial materials or activities are protected by a storm resistant shelter so that the materials are not exposed to rain, snow, snowmelt, or runoff. This chapter estimates the number of Phase I industrial facilities that may be able to qualify for the no exposure exclusion and the net cost savings that will result. Section 9.1 provides background and an explanation of the Phase II rule's no exposure exclusion provision. Section 9.2 discusses the methodology and estimates the cost savings from the no exposure provision for facilities currently regulated under Phase I. Section 9.3 estimates the compliance costs associated with the no exposure provision. Section 9.4 summarizes the findings, Section 9.5 identifies state and federal costs and Section 9.6 identifies data limitations and assumptions used to estimate the net cost savings of the no exposure provision.

9.1 Background

In the 1990 storm water regulations, EPA identified eleven categories of industrial activities in the definition of "storm water discharge associated with industrial activity"(40 CFR §122.26(b)(14)(I)-(xi)). See Exhibit 9–1 for a description of each category. All operators of industrial facilities with activities identified in these categories are required to obtain an NPDES storm water permit to discharge, except those facilities that are included in the "light industry" category (xi). These facilities were exempt from the requirement to obtain an NPDES permit if their industrial materials and/or activities were not "exposed" to storm water (see 40 CFR §122.26(b)(14) [introductory text]). The Agency had reasoned that most of the activity at these types of facilities takes place indoors and that emissions from stacks, use of unhoused manufacturing equipment, outside material storage or disposal, and generation of large amounts of dust or particles would be atypical (55 FR 48008, November 16, 1990).

In 1992, the Ninth Circuit court remanded to EPA for further rulemaking, the portion of the definition of "storm water discharge associated with industrial activity" that excluded the light industry in category (xi) when industrial materials and/or activities were not exposed to storm water. See *NRDC v. EPA*, 966 F.2d 1292, 1305 (9th Cir. 1992). The Ninth Circuit determined that the exemption was arbitrary and capricious for two reasons. First, the court found that EPA had not established a record to support its assumption that light industry that was not exposed to storm water was not "associated with industrial activity," particularly when other types of industry not exposed to storm water remained "associated with industrial activity." Second, the court concluded that the exemption impermissibly "altered the statutory scheme" for permitting because the exemption relied on the unverified judgement of the light industrial facility operator to determine non-applicability of the permit application requirements. In other words, the court was critical that the operator would determine for itself that there was no exposure and then simply not apply for a permit without any further action. Without a basis for ensuring the effective operation of the permitting scheme—either that facilities would self-report actual exposure or that EPA would be required to inspect and monitor such facilities—the court vacated and remanded the rule to EPA for further rulemaking. The Phase II rule responds to that remand.

Under the Phase II rule, the Agency responds to both of the bases for the court's remand. In response to the first basis, the exemption from permitting based on "no exposure" now applies to all industrial categories listed in the definition of "storm water discharge associated with industrial activity," except construction (category (x)) and industrial facilities individually designated by the NPDES permitting authority. This assures that discharges from different types of industrial facilities are equally regulated based on their propensity to be contaminated. In response to the second basis for the court's remand, the permitting exclusion is "conditional." The operator responsible for a point source discharge from a "no exposure" industrial source must meet the conditions of the exclusion, and then complete, sign and submit a written certification to the NPDES permitting authority for tracking and accountability purposes. If a condition of no exposure is not maintained, the operator must immediately obtain coverage under an NPDES storm water permit. In other words, the operator is not fully exempt from the regulations, but rather only conditionally excluded for as long as they have no exposure of materials and activities to storm water.

EPA deleted the sentence regarding "no exposure" for the category (xi) facilities in 40 CFR §122.26(b)(14)[introductory text] and added a new section, §122.26(g), titled "Conditional Exclusion for No Exposure of Industrial Activities and Materials to Storm Water." As mentioned above, this provision applies to all categories of industrial activity covered by the Phase I program that can claim a condition of no exposure, except discharges from construction and from individually designated sources.

In order to obtain the no exposure exclusion, the discharger of an otherwise regulated facility must submit a written no exposure certification that incorporates the Yes/No questions of §122.26(g)(4) of the Phase II rule to the NPDES permitting authority once every five years (see EPA's No Exposure Certification Form in Appendix D–1). Based on recommendations of the FACA Committee, the certification requires only a minimal amount of information from the facility. All no exposure certifications must be signed in accordance with the signatory requirements of 40 CFR §122.22. The no exposure certification is non-transferable. In the event that the facility operator changes, the new discharger must submit a new no exposure certification. The NPDES permitting authority is expected to maintain a simple database to record the information included in the no exposure certifications and track the facilities.

In addition to the written certification, the facility must allow the NPDES permitting authority or operator of a municipal separate storm sewer system (where there is a storm water discharge to the municipal system) to inspect the facility and to make such inspection reports publicly available upon request. Also, upon request and where applicable, the facility must submit a copy of the no exposure certification to the operator of a municipal separate storm sewer system.

Exhibit 9–1. Industrial Facilities That Must Submit Applications for Storm Water Permits (Phase I)

40 CFR 122.26(b)(14) Subpart	Description
(i)	Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR, Subchapter N [except facilities which are exempt under category (xi)].
(ii)	Facilities classified as: SIC 24 (except 2434) . . . . . Lumber and Wood Products SIC 26 (except 265 and 267) . . . . Paper and Allied Products SIC 28 (except 283 and 285) . . . . Chemicals and Allied Products SIC 29 . . . . . Petroleum and Coal Products SIC 311 . . . . . Leather Tanning and Finishing SIC 32 (except 323) . . . . . Stone, Clay and Glass Products SIC 33 . . . . . Primary Metal Industries SIC 3441 . . . . . Fabricated Structural Metal SIC 373 . . . . . Ship and Boat Building and Repairing
(iii)	Facilities classified as SIC 10 through 14, including active or inactive mining operations and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of such operations. SIC 10 . . . . . Metal Mining SIC 11 . . . . . Anthracite Mining SIC 12 . . . . . Coal Mining SIC 13 . . . . . Oil and Gas Extraction SIC 14 . . . . . Nonmetallic Minerals, except Fuels
(iv)	Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
(v)	Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA
(vi)	Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093
(vii)	Steam electric power generating facilities, including coal handling sites
(viii)	Transportation facilities which have vehicle maintenance shops, equipment cleaning operations, or airport de-icing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport de-icing operations, or which are otherwise listed in another category are included: SIC 40 . . . . . Railroad Transportation SIC 41 . . . . . Local and Suburban Transit SIC 42 (except 4221–45) . . . . . Motor Freight and Warehousing SIC 43 . . . . . US Postal Service SIC 44 . . . . . Water Transportation SIC 45 . . . . . Transportation by Air SIC 5171 . . . . . Petroleum Bulk Stations and Terminals

Exhibit 9–1. Industrial Facilities That Must Submit Applications for Storm Water Permits (Phase I) (Continued)

40 CFR 122.26(b)(14) Subpart	Description
(ix)	Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA.
(x)	Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale
(xi)	Facilities under the following SICs [which are not otherwise included in categories (ii)-(x)], including only storm water discharges where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts, or industrial machinery are exposed to storm water. SIC 20 . . . . . Food and Kindred Products SIC 21 . . . . . Tobacco Products SIC 22 . . . . . Textile Mill Products SIC 23 . . . . . Apparel and Other Textile Products SIC 2434 . . . . . Wood Kitchen Cabinets SIC 25 . . . . . Furniture and Fixtures SIC 265 . . . . . Paperboard Containers and Boxes SIC 267 . . . . . Converted Paper and Paper Board Products (except containers and boxes) SIC 27 . . . . . Printing and Publishing SIC 283 . . . . . Drugs SIC 285 . . . . . Paints, Varnishes, Lacquer, Enamels SIC 30 . . . . . Rubber and Miscellaneous Plastics Products SIC 31 (except 311) . . . . . Leather and Leather Products SIC 323 . . . . . Products of Purchased Glass SIC 34 (except 3441) . . . . . Fabricated Metal Products SIC 35 . . . . . Industrial Machinery and Equipment, except Electrical SIC 36 . . . . . Electronic and other Electric Equipment SIC 37 (except 373) . . . . . Transportation Equipment SIC 38 . . . . . Instruments and Related Products SIC 39 . . . . . Miscellaneous Manufacturing Industries SIC 4221 . . . . . Farm Products Warehousing and Storage SIC 4222 . . . . . Refrigerated Warehousing and Storage SIC 4225 . . . . . General Warehousing and Storage

Source: Federal Register, Vol. 55, No. 222, p. 48065, November 16, 1990.

9.2 No Exposure Cost Savings

In order to estimate the potential cost savings that may result from adoption of the no exposure provision it is necessary to estimate the number of currently regulated Phase I industrial facilities that may be eligible for the exclusion and to estimate the avoided costs. EPA's approach for estimating no exposure cost savings involved:

- Identifying the total number of establishments in the United States that have a narrative description or a SIC code identified in §122.26(b)(14)(I)-(ix) and (xi).
- Estimating the total number of establishments that are currently required to have a storm water permit.
- Determining the percentage, and number, of facilities for each industrial category in §122.26(b)(14) that have industrial activities or materials exposed to storm water.
- Allocating the industrial facilities in the 10 industrial categories to the 30 sectors in the modified multi-sector general permit for storm water discharges.
- Developing minimum and maximum unit compliance costs for all facilities covered by the multi-sector general permit (includes costs for visual monitoring, analytical monitoring, development and implementation of a storm water pollution prevention plan, submitting an NOI, notifying the local municipality, and recordkeeping).
- Applying the unit compliance costs for each sector to the number of facilities that may potentially qualify for the no exposure exclusion.
- Developing cost estimates for completion of the no exposure certification form.
- Estimating the increase in compliance costs for category xi facilities which currently do nothing if they have no exposure but will be required to certify no exposure after promulgation of the no exposure provision.
- Obtaining net compliance cost savings for the no exposure provision by subtracting compliance cost increases from avoided costs.

This section addresses only facilities that are currently regulated under the Phase I industrial program, including those category (xi) facilities that have industrial equipment or materials exposed to storm water and did not qualify for the original no exposure exemption. The following sections discuss each of the steps mentioned above.

9.2.1 Number of Facilities Eligible for the No Exposure Provision

Identifying the number of facilities eligible for the no exposure exclusion is problematic because there are no data sources indicating the number of facilities that have storm water discharges associated with industrial activity. Therefore, it is necessary to develop an estimate of this number. There are a number of steps involved in developing such an estimate. The first step is to identify the total number of establishments that have narrative descriptions or a SIC code identified in §§122.26(b)(14)(I)-(ix) and (xi), without concern for whether or not the facility has exposure of industrial activities or materials to storm water. This step identifies the maximum number of facilities or industrial activities that have the potential to meet the definition of storm water associated with an industrial activity.[1] There are approximately 587,099 facilities in the United States that meet the narrative description or have a SIC code identified in §§122.26(b)(14)(I)-(ix) and (xi).[2]

The next step is to estimate the number of facilities from the total of 587,099 that have a "storm water discharge associated with industrial activity," as defined by §122.26(b)(14). Eight states provided EPA with either an estimate, or actual data regarding the number of Phase I industrial establishments that meet the definition of a storm water discharge associated with an industrial activity within their state.[3] These estimates assume that every facility in categories I-ix with a storm water discharge now require a storm water permit, and only those facilities in category xi with exposure and discharge will require a permit. Exhibit 9–2 indicates the potential number of facilities within these states that are defined by categories (I) through (ix) and (xi) in §122.26(b)(14), the number of facilities estimated by the state storm water representative to have a discharge meeting the definition of a "storm water discharge associated with an industrial activity,"and the percentage of all facilities that have a discharge meeting the definition of "storm water discharge associated with an industrial activity."

[1] The term "storm water associated with industrial activity" is defined in 40 CFR §122.26(b)(14).

[2] US Department of Commerce, Census Bureau. 1996. *County Business Patterns: United States*; Edison Electric Institute, 1995; US EPA, 1997. *Preliminary Biennial RCRA Hazardous Waste Report: Based on 1995 Data*; and US EPA, 1995. *Municipal Solid Waste Fact Book.* This number does not include: abandoned and inactive landfills, mine sites, and oil and gas sites; vehicle maintenance activities at rail yards and the US Postal Service; and wastewater treatment facilities with a design flow of 1million gallons per day (MGD) or greater.

[3] The NPDES authorized States contacted are: Arkansas, Illinois, Michigan, New York, South Carolina, Tennessee, Virginia, and West Virginia. Other states were contacted but the information was not available, therefore, they were not requested to provide this information to EPA.

Exhibit 9–2. Total Facilities and Estimated Number of Regulated Industrial Facilities in Selected States

State	Total Number of Facilities[1]	Estimated Number of Regulated Facilities[2]	Percentage[3]
Arkansas	5,282	2,500	47%
Illinois	22,135	11,000	50%
Michigan	18,648	6,000	32%
New York	31,732	10,000	32%
South Carolina	5,936	4,500	76%
Tennessee	9,688	5,780	60%
Virginia	8,775	3,200	36%
West Virginia	3,319	3,000	90%
TOTAL	105,515	45,980	Weighted Average = 44%

[1]Total number of facilities that are defined by categories (I) through (ix) and (xi) in 40 CFR §122.26(b)(14). The source of information includes: for facilities identified with SIC codes US Department of Commerce, Census Bureau, 1996. *County Business Patterns for 1994*; for steam electric facilities Edison Electric Institute, 1995; for hazardous waste facilities US EPA, 1997. *Preliminary Biennial RCRA Hazardous Waste Report: Based on 1995 Data*; and for landfills US EPA, 1995. *Municipal Solid Waste Fact Book*. Note: This number does not include: abandoned and inactive mine sites, landfills, and oil and gas wells; vehicle maintenance activities at rail yards and US Postal Service centers; and wastewater treatment facilities with a design flow of 1 MGD or greater.
[2]Total number of facilities in the second column that meet the definition of "storm water discharge associated with industrial activity" in 40 CFR §122.26(b)(14), because they discharge to waters of the United States, therefore, must obtain a NPDES storm water permit. *Source:* Personal communication with State Storm Water representatives on April 23, 1997.
[3]The percentage of the total number of facilities in the second column that meet the definition of "storm water discharge associated with industrial activity" and must obtain an NPDES storm water permit.

The percentage of facilities that meet the definition of storm water discharge associated with industrial activity ranged from a high of 90% to a low of 32% in the states contacted. The weighted average is approximately 44% for (I-ix) categories. EPA estimates the number of category (xi) light industrial facilities that meet the definition of "storm water discharge with industrial activity" to be approximately 8%.[4] These figures, 44% and 8%, were used in the analysis.

9.2.2 Industrial Facilities With and Without Exposure

[4] EPA determined the number of NOIs submitted to the NOI tracking center for facilities meeting the definition of "storm water discharge with industrial activity" for facilities characterized as category xi facilities. In the non-NPDES authorized states the owners/operators of 3,701 light industrial establishments submitted NOIs to the tracking center. The Dun and Bradstreet's FACTS database estimates that there are 65,091 light industrial establishments in the non-NPDES authorized states. The number of NOIs compared to the total number of establishments is approximately 6%. EPA also estimates that nationwide the rate of compliance for storm water permits is approximately two-thirds. Therefore, when taking into consideration noncompliance, EPA estimates the percentage of light industrial establishments that require storm water permits to be approximately 8% of the total number of establishments.

Because each category of industrial facilities conducts different activities and follows different materials use and storage practices, the level of exposure of these activities and materials will vary. Exhibit 9–3 provides an estimate of the number of facilities with and without exposure for each industrial category. Exhibit 9–3 indicates that approximately 76,438 of the 152,677 facilities in the United States that meet the regulatory definition of "storm water discharge associated with industrial activity" have exposure and, therefore, must obtain a Phase I storm permit. Exhibit 9–3 also indicates that approximately 76,239 facilities that meet the regulatory definition of "storm water discharge associated with industrial activity" may have no exposure conditions at their site and will be eligible to take advantage of the no exposure provision.

9.2.3 Industrial Compliance Cost Savings

Industrial facilities currently regulated under the Phase I storm water program are required to obtain permit coverage. Under the permit, they are required to develop and implement a storm water pollution prevention plan and conduct visual and analytical monitoring of their storm water discharges. The no exposure provision provides a potential cost saving to those facilities that can certify that a condition of no exposure exists at their facility because they will no longer be required to meet the annual permitting requirements. The annual cost savings for an industrial facility was estimated to be equivalent to the annual compliance cost for an industrial facility meeting the conditions of the multi-sector general permit. EPA estimates that very few industrial facilities have applied and received an individual storm water permit and, therefore, estimated the cost savings based on the compliance costs for the multi-sector general permit.[5]

Storm Water Pollution Prevention Plan Costs

High and low cost estimates for development of the multi-sector general permit storm water pollution prevention plan were published on September 29, 1995 (60 FR 51108). The cost estimates have been inflated to 1998 dollars using the Consumer Price Index and are shown in Exhibits 9–4 and 9–5. Exhibit 9–4 presents the estimated per facility start up, annual, and total low and high industrial compliance costs for development, implementation, and maintenance of the storm water pollution prevention plan. Exhibit 9–5 indicates the additional costs that Emergency Planning and Community Right-to-Know (EPCRA) facilities would incur.[6]

The multi-sector general permit requires permittees to conduct a number of activities during the start-up years of the initial permit that are not required in years four and five of the first permit and all years in subsequent permits. Activities such as plan preparation and start-up costs are not imposed in years four and five, and subsequent terms, because the annual pollution prevention activities are intended to maintain or modify the storm water pollution prevention plan as

[5]The multi-sector general permit was chosen as the benchmark because EPA does not plan on re-issuing the baseline general permit for industrial facilities. The multi-sector general permit is being modified to incorporate those industrial establishments that were not previously included in the multi-sector general permit.

[6]The multi-sector general permit has additional conditions for EPCRA facilities. For this reason, Exhibit 9–5 indicates the compliance costs only applicable to EPCRA facilities, however, these costs are in addition to those indicated in Exhibit 9–4.

Exhibit 9–3. Estimated Number of Regulated Industrial Facilities With and Without Exposure

Phase I Industrial Category	Total Number of Facilities in the US [1]	Number of Facilities Requiring a Permit [2]	Percent of Facilities with Exposure [3]	Number of Facilities with Exposure	Percent of Facilities with No Exposure [3]	Number of Facilities with No Exposure
(i) Effluent Guidelines	NA[4]	NA[4]	NA[4]	NA[4]	NA[4]	NA[4]
(ii) Manufacturing	78,757	34,653	50%	17,327	50%	17,327
(iii) Mining[5]	27,166	11,953	100%	11,953	0%	0
(iv) Hazardous Waste Treatment and Storage	1,787	786	30%	236	70%	550
(i) Landfills[5]	3,581	1,576	100%	1,576	0%	0
(vi) Automobile and Scrap Recyclers	16,171	7,115	100%	7,115	0%	0
(vii) Steam Electric	993	437	50%	218	50%	218
(viii) Vehicle Maintenance[6]	165,182	72,680	20%	14,536	80%	58,144
(ix) Wastewater Treatment Facilities	NA[4]	NA[4]	90%	NA[4]	10%	NA[4]
(xi) Light Industrial[7]	293,462	23,477	100%	23,477	0%	0
TOTAL	**587,099**	**152,677**		**76,438**		**76,239**

[1]US Department of Commerce, Census Bureau. 1996. *County Business Patterns: United States*; Edison Electric Institute, 1995; US EPA, 1997. *Preliminary Biennial RCRA Hazardous Waste Report: Based on 1995 Data*; and US EPA, 1995. *Municipal Solid Waste Fact Book*. This number does not include: abandoned and inactive landfills, mine sites, and oil and gas sites; vehicle maintenance activities at rail yards and the US Postal Service; and wastewater treatment facilities with a design flow of 1 million gallons per day (MGD) or greater.

[2] Based on 44% of total number of facilities in US. The 44% is an average obtained from Exhibit 9–2.

[3]The percentage estimates are based on best professional judgement of EPA Phase I storm water staff—Bill Swietlik, US EPA, Office of Water Permits Division.

[4]NA = Not Available.

[5]The exact number of abandoned and inactive mine sites, oil and gas sites, and landfills is unknown.

[6]The exact number of vehicle maintenance activities will be greater than the number indicated because information is not available for the number of rail yards and US Postal Service facilities that conduct vehicle maintenance activities. Also, the number of manufacturing facilities that have co-located vehicle maintenance activities in unknown. Likewise, the number of Federal, State, and local government facilities conducting vehicle maintenance is unknown.

[7]Based on data received by the NOI Tracking center, EPA determined that NOIs for light industrial facilities represented 6% of the total number of light industrial facilities in the non-NPDES authorized States. EPA estimates that the compliance rate for the storm water program is 60%. When taking into consideration the compliance rate, EPA estimates that 8% of all light industrial establishments require Phase I storm water permits.

necessary. The cost savings for an existing industrial facility are only the annual costs, but cost savings for facilities that become operational after promulgation of the Phase II rule will include both start-up and annual costs. This analysis, however, does not attempt to estimate the cost savings for new facilities.

Exhibit 9–4. Estimated Industrial Pollution Prevention Costs for All Regulated Facilities (1998 dollars)

Requirements for All Facilities	Low Costs			High Costs		
	Start-Up Costs	Annual Costs	Total Costs	Start-Up Costs	Annual Costs	Total Costs
Plan Preparation	$1,758		$1,758	$88,214		$88,214
Plan Implementation	$105	$340	$1,805	$41,006	$10,855	$95,281
Comprehensive Site Compliance and Evaluation/Plan Revision		$310	$1,550	$9,847	$10,281	$51,405 $9,847
Reportable Quantities						
Subtotal	$1,863	$650	$5,113	$139,067	$21,136	$244,746

Source: Multi-sector Storm Water General Permit (60 FR 51108)
Notes: Numbers may not total because of rounding.
Since permit lasts for 5 years, total costs = (annual costs X five years) + first year costs.

Exhibit 9–5. Estimated Incremental Industrial Pollution Prevention Costs for EPCRA Facilities (1998 dollars)

Requirements for EPCRA Facilities	Estimated Costs		
	Start-Up Costs	Annual Costs	Total Costs
Plan Preparation			
Liquid Storage Area	$12,974		$12,974
Material Storage Area	$649		$649
Loading Areas	$24,326		$24,326
Process Areas	$12,963		$12,963
Drainage/Runoff	$8,978		$8,978
Housekeeping/Maintenance		$6,901	$34,505
Facility Security	$3,754		$3,754
Employee Training		$1,625	$8,125
Toxicity Reduction		$3,517	$17,585
Subtotal	$63,642	$12,043	$123,854

Source: Multi-sector General Permit (60 FR 51108)
Notes: Numbers may not total because of rounding. Also, costs are in addition to costs indicated in Exhibit 9–4.
Since permit lasts for five years, total costs = (annual costs X five years) + first year costs.

Exhibit 9–6. Estimated Annual Cost Savings per Facility (1998 dollars)

Facility	Existing Facility	Operational Facility After Promulgation of Phase II Rule
Non-EPCRA facility	$650-$21,136 [1]	$1,023-$48,949 [3]
EPCRA facility	$12,693-$33,179 [2]	$25,794-$73,720 [4]

[1]Based on annual costs in Exhibit 9–4.
[2] Based on annual costs in Exhibit 9–4 plus annual costs in Exhibit 9–5
{i.e. : ($650 +$12,043 = $12,693) and ($21,136+$12,043 = $33,179) }
[3]Based on first time costs divided by 5 years plus annual costs in Exhibit 9–4;
{i.e. : (1863/5) + 650 = 1,023 and (139,067/5) + 21,136 = 48,949}
[4]Based on first time costs divided by 5 years plus annual costs in Exhibit 9–5 and figure from above.
{i.e. : (63,642/5) + 12,043 +1,023 = 25,794 and (63,642/5) +12,043 + 48,949 = 73,720}

The percent of facilities that required to meet EPCRA requirements is unknown; this analysis assumes that 25% of facilities qualifying for the no exposure exemption must meet EPCRA requirements. Based on this assumption of 25% EPCRA and 75% non-EPCRA, a weighted average using annual costs information from Exhibit 9–4 and Exhibit 9–5 determined the low and high range of estimated cost savings.[7]

Exhibit 9–7. Adjusted Annual Cost Savings per Facility (1998 dollars)

Low	High
$3,661	$24,147

Monitoring Costs

The lack of required monitoring will result in a second cost savings for industrial facilities that qualify for the no exposure exclusion. The multi-sector general permit includes both visual and analytical monitoring requirements. The visual monitoring requirements must be conducted each quarter year by all facilities. Analytical monitoring must be conducted during years two and four of the multi-sector general permit. EPA estimates that it will take 30 minutes to collect and visually inspect a storm water sample and to log the observation. EPA also estimates that it will take 30 minutes to collect, via a grab sample, and package each storm water sample for shipment to an outside laboratory for analysis. The average hourly wage for private sector employees (including overhead and administrative costs) is estimated to be $44.35, in 1998 dollars.[8] Therefore, the average cost to collect and package, or visually inspect and record, a storm water sample is estimated to be $22.17, in 1998 dollars. The multi-sector general permit includes analytical monitoring of storm water samples for many of the industrial sectors and subsectors. Exhibit D–2–1 in Appendix D provides estimated unit costs for the parameters

[7]For the low estimate, 25% (650 + 12,043) + 75% (650) = 3,661.
For the high estimate, 25% (21,136 + 12,043) + 75% (21,136) = 24,147.

[8]This figure is based on the average hourly compensation for all employees in the manufacturing sector (SIC codes 20 through 39) and includes 50% for overhead, 67% for fringe, and 15% for inflation. The source of the number of employees is US Department of Commerce, Bureau of the Census. 1995. *1993 Annual Survey of Manufactures: Statistics for Industry Groups and Industries*, M93(AS)–1. Table 2, page 1–8.

identified in the monitoring section of the multi-sector general permit. Exhibit D–2–2 indicates the monitoring requirements and estimated costs for each subsector in the multi-sector general permit. Since the number of outfalls will vary from site to site, it has been assumed that each industrial facility will have four outfalls. The multi-sector general permit requires industrial permittees to conduct four sampling events during years two and four of the permit. Therefore the total number of samples collected during the life of the five year permit is 32.[9]

Notice of Intent Costs

The operators of Phase I industrial facilities are required to submit a notice of intent (NOI) under a NPDES general permit to obtain coverage of storm water discharges associated with industrial activity. In 1992, EPA estimated the cost for the operator to complete an NOI to be approximately $16.25, in 1998 dollars.[10] Since the submittal of the NOI is a one-time expense, an annual cost can be estimated by dividing the one-time cost by the life of the permit, which is typically five years. Therefore, the annual cost is estimated to be approximately $3.25, in 1998 dollars.

Costs for Notification of Municipalities

Under the modified multi-sector general permit, operators of industrial facilities that discharge into a local municipal separate storm sewer system (MS4) are required to notify the MS4 operator (typically a municipality) that they are applying for a NPDES storm water permit. In 1992, EPA estimated the cost of municipal notification at approximately $16.25, in1998 dollars.[11] Notifying the local municipality is a one-time expense an annual cost can be estimated by dividing the one-time cost by the life of a five-year permit. The annual cost is estimated to be approximately $3.25 in 1998 dollars.

Recordkeeping Costs

The operator of an industrial facility is required to retain all data, plans, reports, and inspections required under the permit for three years from the date of permit expiration. It is estimated that the cost for recordkeeping is approximately $457, in 1998 dollars for a five year permit, or $91, in 1998 dollars annually.[12]

---

[9]The number of samples collected during the life of the five year permit can be calculated by:
[NUMBER OF YEARS SAMPLES REQUIRED] x [NUMBER OF OUTFALLS] x [QUARTERS IN A YEAR]
OR 2 x 4 x 4 = 32.

[10]The Cadmus Group, Incorporated. February 21, 1992. *Information Collection Request for the Revisions to the National Pollutant Discharge Elimination System: Storm Water Implementation.* Prepared for US EPA Office of Wastewater Enforcement and Compliance.

[11]The Cadmus Group, Incorporated. February 21, 1992. *Information Collection Request for the Revisions to the National Pollutant Discharge Elimination System: Storm Water Implementation*. Prepared for US EPA Office of Wastewater Enforcement and Compliance.

[12] It is estimated that over the five-year multi-sector permit the industrial facility will spend five hours for recordkeeping activities at $43.67 per hour. For these recordkeeping activities it will be necessary for the industrial facility to purchase one two- drawer vertical file cabinet for $208 and hanging folders for $25. The total cost over the five-year permit is approximately $450, in 1997 dollars.

9.2.4 Total Industrial Cost Savings

Exhibit D–2–3 in Appendix D indicates the estimated number of industrial facilities in each subsector (under the multi-sector general permit) that may qualify for the no exposure exemption and the cost savings associated with each subsector. The per facility per subsector annual costs were summed over visual monitoring costs, analytical monitoring costs, submittal of NOI costs, municipality notification costs, recordkeeping costs and the respective low and high pollution prevention plan costs. This estimate is then multiplied by the number of facilities with no exposure in each subsector to obtain the annual low and high range cost savings for each subsector. It is estimated that a total of 76,239 facilities, currently regulated by the Phase I industrial storm water program, will qualify for the no exposure conditional exclusion. This will result in an annual cost savings ranging from $318,825,521 to $1,865,642,987 in 1998 dollars. This range is extremely large due to the large annual cost range associated with storm water pollution prevention plans (per-facility annual costs range from $3,661 to $24,147), as shown in Exhibit 9–7.

9.3 No Exposure Certification Cost

Under the Phase II rule, industrial facilities currently regulated and permitted under §122.26(b)(14)(I) through (ix), but have no exposure of activities or materials to storm water, will be eligible for the no exposure exclusion. The operators of facilities that seek to obtain the no exposure exclusion must provide written certification to the NPDES permitting authority that no exposure conditions exist. In addition, operators of facilities that meet the SIC code definition of §122.26(b)(14)(xi), but are not currently covered by a permit because their industrial activities and materials are not exposed to storm water, will now need to certify that no exposure conditions exist at their industrial site. Therefore, to determine the net cost savings it is necessary to estimate the certification cost.

Through an informal poll, it was estimated that it would take 45 minutes to complete EPA's no exposure certification form (see Appendix D–1).[13] Similar to a permit application, the certification form must be re-submitted every five years. The average hourly wage for private sector employees (including overhead and G&A) is estimated to be $44.35, in 1998 dollars.[14] Therefore, the average cost to complete the no exposure certification form is estimated to be $33.26, in 1998 dollars.

The number of currently permitted facilities in categories (I) through (ix) with no exposure is estimated to be approximately 76,239.[15] The number of existing category (xi) industrial facilities with no exposure that will now be required to submit a no exposure certification form to the

[13] An informal poll of professionals knowledgeable of the industrial activities conducted by storm water permittees and the storm water program was conducted. The average time to complete EPA's no exposure certification form was 45 minutes.

[14] This figure is based on the average hourly compensation for all employees in the manufacturing sector (SIC codes 20 through 39) and includes 50% for overhead, 67% for fringe, and 15% for inflation. The source of the number of employees is US Department of Commerce, Bureau of the Census. 1995. *1993 Annual Survey of Manufactures: Statistics for Industry Groups and Industries*, M93(AS)-1. Table 2, page 1–8.

[15] See Exhibit 9–3. The total includes industrial categories (I) through (ix) of 40 CFR §122.26(b)(14).

NPDES permitting authority is estimated to be approximately 105,646.[16] The summation of these two figures results in 181,885 as the total number of facilities that will complete the notice of certification.

The total cost to complete the no exposure certification form can be estimated by:

[LABOR COST] x [NUMBER OF FACILITIES] = TOTAL COST

where:

LABOR COST = $33.26, in 1998 dollars. (three-fourths of the average hourly wage of $44.35 for private sector employees in the manufacturing sector to complete the no exposure certification form in 45 minutes).

NUMBER OF FACILITIES = $181,885 (Number of facilities from categories (I) through (ix) and (xi) that have no exposure of their activities and materials to storm water.)

Using the above formula, the total cost to complete the no certification form is approximately $6,049,495. By dividing the total cost by five (the term of the certification), the estimated annual cost to complete the no certification form is $1,209,899.

9.4 Net Compliance Cost Savings

The net impact of the no exposure exclusion is an annual net compliance cost savings ranging from $317,615,622 to $1,864,433,088. Annual net compliance cost savings reflects the annual cost savings for all facilities projected to qualify for the no exposure exemption less the estimated total annual cost for all facilities to complete the no exposure certification form.

9.5 State and Federal Costs

Once the no exposure provision is promulgated, the costs for federal and state NPDES permitting authorities will increase. The NPDES permitting authorities will need to make a certification form available to the regulated community, and then record and review the no exposure certification forms submitted. However, since EPA has already included a certification form in the Phase II rule package, the cost for a NPDES permitting authority to develop a form was not included in this analysis. The increased cost is based simply on significant number of industrial facilities that are expected to certify to no exposure.

[16]The total number of light industrial facilities in the US is estimated to be 293,462 and the total number of light industrial facilities regulated by the Phase I storm water regulation is estimated to be 23,477 from Exhibit 9–3. The exact number of light industrial facilities with a discharge to waters of the US is unknown. If it is assumed that 44% of all light industrial facilities have discharges to waters of the US (44% is equivalent to the average developed in Exhibit 9–2) and 23,477 light facilities require Phase I industrial storm water permits because they meet the regulatory definition of §122.26(b)(14)(xi) then the number of category xi facilities that will need to certify no exposure conditions is approximately 105,646, that is, (293,462 x 0.44 – 23,477).

9.5.1 Total State Costs

The NPDES-authorized states and territories will be responsible for implementing the no exposure provision. This will require the states to record and review the no exposure certification forms submitted by industrial facilities. It is estimated that a total of 181,885 industrial facilities have no exposure and will submit a no exposure certification form. Multiplying the ratio of NPDES-authorized states and territories (44) to the total NPDES jurisdictions (53) by 181,885 results in a total of 150,999 facilities possibly seeking the no exposure exclusion in NPDES-authorized states and territories. Exhibit 9–8 presents the cost to implement the no exposure provision in NPDES-authorized states and territories. The annual cost is expected to be approximately $811,000.

Exhibit 9–8. State Costs to Implement the Industrial No Exposure Provision (1998 dollars)

	Estimate
Number of Establishments Certifying No Exposure[1]	150,999
State Cost to Process Each Certification Form[2]	$26.87
Total State Costs (Over 5 years)[3]	$4,057,343
Total State Costs (Annual)[4]	$811,469

[1]The estimated number of industrial facilities (categories (I) through (ix) and (ix)) eligible for the no exposure exclusion was calculated by multiplying the ratio of NPDES-authorized States (44) to total NPDES jurisdictions (53) by 181,885, which is the estimated number of facilities eligible for the no exposure exclusion.
[2]The average hourly wage for State employees was determined by the US Dept. of Labor Employment Cost Indexes and Levels 1975–1995; Bulletin 2466, Oct.1995. The hourly wage includes overhead expenditures and is in 1998 dollars.
[3]Total state costs are reported over five years in this row. Five years represents the life of the certification. In subsequent permit cycles the costs to process the certification forms may increase because additional facilities will constructed (which are not included in this analysis) and other facilities will change their existing practices to make themselves eligible for the no exposure exclusion.
[4]The annual cost was derived by dividing the Total State Costs by five. Similar to a permit, the certification form has a five-year term.

9.5.2 Total Federal Costs

EPA will be responsible for implementing the no exposure provision in the nine non NPDES-authorized states and territories. As the NPDES permitting authority in these nine areas, EPA will have to record and review the no exposure certification forms submitted by industrial facilities. It is estimated that a total of 181,885 industrial facilities have no exposure and will submit a no exposure certification form. Multiplying the ratio of non-authorized states and territories (9) to the total NPDES jurisdictions (53) by 181,885 results in a total of 30,886 facilities possibly seeking the no exposure exclusion in non-authorized states and territories. Exhibit 9–9 presents the cost for EPA to implement the no exposure provision in non-authorized states and territories. The annual cost is expected to be approximately $175,000.

Exhibit 9–9. Federal Costs to Implement the Industrial No Exposure Provision (1998 dollars)

	Estimate
Number of Establishments Certifying No Exposure[1]	30,886
EPA Cost to Process Each Certification Form[2]	$28.37
Total EPA Costs (Over 5 years)[3]	$876,236
Total EPA Costs (Annual)[4]	$175,247

[1]The estimated number of industrial facilities (categories (I) through (ix) and (ix)) eligible for the no exposure exclusion was calculated by multiplying the ratio of non NPDES-authorized states (nine) to total NPDES jurisdictions (53) by 181,885, which is the estimated number of facilities eligible for the no exposure exclusion.
[2]The average hourly wage for federal employees, including overhead costs was determined by the US Office of Personnel Management, 1998 schedule.
[3]Total EPA Costs are reported over five years in this row. Five years represents the life of the certification. In subsequent permit cycles the total costs to process the certification forms may increase because additional facilities will be constructed (which are not included in this analysis) and other facilities will change their existing practices to make themselves eligible for the no exposure exclusion.
[4]The annual cost was derived by dividing the Total EPA Costs by five. Similar to a permit, the certification form has a five-year term.

9.6 Data Limitations

There are a number of data limitations that hindered the no exposure provision analysis in this chapter. These limitations include:

- There are no data sources indicating the number of industrial facilities that should be covered by the Phase I program, therefore, the baseline needed to be estimated and in some cases reliable data could not be collected.

- The number of facilities do not include abandoned or inactive mines, landfills, and oil and gas sites on both public and private lands.

- By estimating the universe of regulated facilities with data from *County Business Patterns* there is the potential to under estimate the number of facilities, and industrial activities, regulated. For example, some facilities may need to meet permit requirements for more than 1 industrial sector. This is true for large industrial facilities, such as a newsprint mill, which may have to meet permit conditions for newsprint manufacturing, vehicle maintenance,

railroads, steam electric generation, and on-site landfills. The method used to estimate the number of establishments would only count this as one facility in this analysis, but in reality this facility would have five different permit conditions reflecting each of the above industrial activities.

- By relying on the *County Business Patterns* there is the potential to over estimate the number of industrial establishments is some SIC codes and under estimate in others. The *County Business Patterns* records locations where commercial transactions occur not where the industrial activity occurs. For example, the *County Business Patterns* indicates that there are over 100 facilities identified by SIC code 45 occurring in the District of Columbia. SIC code 45 represents transportation by air, but in reality, the District of Columbia does not have a single commercial airport within its jurisdiction. Similarly, the *County Business Patterns* do not report data for the thousands of active oil and gas exploration, production, processing, or transmission sites. These two help indicate the difficulty in estimating the number of facilities regulated under the Phase I program.

- The potential number of industrial facilities requiring storm water permits may be overstated because there was no attempt to eliminate industrial facilities that may discharge storm water to combined sewers. Storm water discharges to combined sewers are exempt from storm water permitting requirements. The exact number of industrial facilities with storm water discharges to combined sewer systems is unknown.